ORISSA SCHOOL OF MINING ENGINERRING
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DEPARTMENT OF MINING ENGINEERING

LESSON PLAN

Discipline: MINING	Semester: 4th	Name of the Teaching faculty: GHANSHYAM DHURUA
SUBJECT: MINE VENTILATION	No of Days/Week class allotted: 4	Semester from Date: 10/3/2022 To Date: 10/06/2022 No of weeks: 16

Week	Class Day	Topics
1st	1st	Definition of natural ventilation and factors affecting natural ventilation.
	2nd	Definition of natural ventilation and factors affecting natural ventilation.
	3rd	Describe the different types of Thermometer.
	4th	Describe the different types of Thermometer.
2nd	1st	Describe the different types of Barometer.
	2nd	Describe the different types of Barometer.
	3rd	Describe kata thermometer.
	4th	Describe water gauge.
3rd	1st	Calculate ventilation pressure by using piton static tube.
	2nd	Calculate ventilation pressure by using piton static tube.
	3rd	Explain effects of heat.
	4th	Explain effects of humidity.
4th	1st	Explain natural ventilation motive column, geothermic gradient.
	2nd	Explain geothermic gradient.
	3rd	Enumerate laws of mine air friction.
	4th	solve problems on above.
5th	1st	Statutory provision as per CMR 2017.
	2nd	Statutory provision as per MMR 1961.
	3rd	Describe ventilation stopping,
	4th	Describe air crossing, ventilation door, brattice partition.
6th	1st	Describe ventilation door.
	2nd	Describe brattice partition.
	3rd	Describe different types of ventilation.
	4th	CLASS TEST 1, Previous year questions, quiz test
7th	1st	Describe different types of ventilation.
	2nd	Accessional & declensional ventilation.
	3rd	Accessional & declensional ventilation.
	4th	Homotropal ventilation.
8th	1st	Antitropal ventilation.

	2nd	Boundary ventilation.
	3rd	Central & combined ventilation.
	4th	Explain splitting of air current.
9th	1st	solve numerical problems on splitting
	2nd	Describe air locks at pit top
	3rd	Explain construction principle of centrifugal flow fans.
	4th	Explain principle of operation of centrifugal flow fans.
10th	1st	State fan laws & calculate fan efficiency and capacity.
	2nd	Calculate fan efficiency and capacity.
	3rd	Explain installation of mine fan with reversal arrangement.
	4th	Explain installation of mine fan with reversal arrangement.
11th	1st	Describe fan drift, fan drive, evasee and diffusers.
	2nd	Describe fan drift, fan drive, evasee and diffusers.
	3rd	Explain fan characteristics and mine characteristics.
	4th	Explain fan characteristics and mine characteristics.
12th	1st	Describe installation of booster fan.
	2nd	Describe location and purpose of booster fan.
	3rd	Describe location and purpose of booster fan.
	4th	CLASS TEST 2, Previous year questions, quiz
13th	1st	Solve problems relating to booster fan.
	2nd	Solve problems relating to booster fan.
	3rd	Describe systems of auxiliary ventilation.
	4th	Describe advantages & disadvantages of auxiliary ventilation.
14th	1st	Describe methods of pressure survey using barometer, gauge.
	2nd	Describe methods of pressure survey using pitot tube with manometer.
	3rd	Describe the method of measurement of cross-sectional area.
	4th	Describe the method of measurement of cross-sectional area.
15th	1st	Describe the method of velocity measurements by using anemometer
	2nd	Describe the method of velocity measurements by using voltmeter.
	3rd	Describe the method of velocity measurements by using pitot- static tube
	4th	Describe the method of velocity measurements by using smoke & cloud method.
16th	1st	Determine percentage of oxygen, methane, carbon monoxide SO2 & H2S.
	2nd	Describe causes and preventive measures of leakage of air in mines.
	3rd	previous year question disscussion
	4th	CLASS TEST 3, Previuos year questions, quiz

RECOMMENDED BOOKS	
Mine Ventilation	G B Mishra
EMT II	D J Deshmukh
Mine Ventilation	L C KAKU

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